6,117,949) is not a proper reference because it was commonly owned with the present application at the time the invention was made.

Claim 1 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bromberg et al. (U.S. Pat. No. 5,939,485), and further in view of Sahatijian (U.S. Patent No. 5,674,192).

Amended claim 1 relates to a biodegradable polymeric system possessing reverse thermal gelation properties comprising a mixture of at least a Component I triblock copolymer and a Component II triblock copolymer, said triblock copolymers comprising biodegradable polyester A-polymer blocks and polyethylene glycol B-polymer blocks, wherein an aqueous solution of the Component I triblock copolymer has a lower gelation temperature than an aqueous solution of the Component II triblock copolymer.

Bromberg relates to polymer compositions which exhibit reversible gelation in response to a change in temperature or other environmental status. The compositions have improved stability over simple blends of the constituent polymers (col. 2, lines 57-62). The composition consists of a responsive polymer network made of a responsive component and a structural component. Suitable responsive components include POP and POE, and triblock polymers such as Pluronic. First, the present invention relates to a composition comprising a mixture of at least two biodegradable triblock copolymer components with reverse thermal gelation properties and wherein an aqueous solution of the Component I triblock copolymer has a lower gelation temperature than an aqueous solution of the Component II triblock copolymer. In contrast, Bromberg's composition consists of a responsive polymer network made of a responsive component and a structural component. In addition, although Blomberg discloses that one block of the triblock composition has a molecular weight of 3250 and another block of the triblock

composition has a molecular weight of over 5700, these polymers are used individually with a structural component such as polyacrylic acid. Nothing in Blomberg teaches or suggests mixtures of two biodegradable triblock copolymers each pair having reverse thermal gelation properties as claimed in the present invention. Furthermore, Bromberg does not teach a triblock copolymer that is biodegradable. The Examiner states that "as established by Sahatjian et al. (U.S. Pat. No. 5,674,192), Pluronic F-127 is a biodegradable material (col. 3, lines 56-63)." The Applicants respectfully traverse. Sahatjian et al. states " ...or a biodegradable or thermally degradable polymer, e.g., albumin or pluronic gel F127 can be used..."(col 3, lines 59-60). The Applicant respectfully submits that this statement does not mean "Pluronic F-127 is a biodegradable material" as indicated by the Examiner. Rather, it should be interpreted as "Pluronic F-127 is a thermally degradable material." In addition, it is common knowledge to one having ordinary skill in the art that Pluronic F-127 is not biodegradable. See Byeongmoon Jeong et al, "Biodegradable Block Copolymers as Injectable Drug-delivery Systems", *Letters to Nature,* Vol 388, 28 August 1997, page 860, lines 5-9. See also A. Chenite, et al, "Novel Injectable Neutral Solutions of Chitosan Form Biodegradable Gels In Situ", *Biomaterials*, 21 (2000) 2155-2161, page 2155, column 1, lines 5-7. See also E. Ruel-Gariepy, et al, "Thermosensitive Chitosan-based Hydrogel Containing Liposomes for the Delivery of Hydrophilic Molecules", *Journal of Controlled Release* 82 (2002) 373-383, page 374, column 1, lines 32-36. Furthermore, Sahatjian relates to a catheter device with a hydrogel coating, which is completely different art from the polymeric drug delivery composition of the present invention. Therefore, no motivation for a person having ordinary skill in the art can be found to combine Blomberg and Sahatjian to arrive at the polymeric drug delivery composition of the present invention. Therefore, it is

respectfully submitted that the Examiner has failed to established a case of *prima facie* obviousness. In other words, one of ordinary skill in the art when combining all the knowledge and methods disclosed in the cited prior art, at the time of the invention was made, would not come up with the biodegradable triblock copolymer mixtures as claimed in the present invention.

Claims 1-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bromberg (U.S. Pat. No. 5,939,485), further in view of Rathi et al. (U.S. Pat. No. 6,004,573).

First, it should be noted that Rathi et al. (U.S. Pat. No. 6,004,573) is not available as a reference under 103(c). Rathi was issued within one year of the filing date of the present application and both Rathi and the present application were commonly owned by the current assignee, Macromed, Inc., at the time the presently claimed invention was made. Under 35 U.S.C 103(c) amended 11/29/99, Rathi cannot be used as a prior art reference against the present invention. See MPEP Section 2137.02 and 2146.

In view of the unavailability of Rathi as a reference, the rejection of claims 1-13 under 35 U.S.C. 103(a) is moot. However, even if Rathi was available as a reference, the combination of Bromberg and Rathi still would not have rendered the claimed invention to be obvious at the time it was made.

The present invention provides drug delivery systems that are biodegradable, exhibit improved reverse thermal gelation behavior, and provide improved drug release characteristics.

As claimed in the amended claims, the drug delivery systems of the present invention are biodegradable polymeric systems possessing reverse thermal gelation properties comprising a mixture of at least a Component I triblock copolymer and a Component II triblock copolymer, said triblock copolymers comprising biodegradable polyester A-polymer blocks and polyethylene

glycol B-polymer blocks, wherein an aqueous solution of the Component I triblock copolymer has a lower gelation temperature than an aqueous solution of the Component II triblock copolymer.

In Blomberg, one or more responsive components may be used with a structural component such as polyacrylic acid. First of all, the response polymers of Blomberg are completely different from the biodegradable triblock copolymers as claimed in the present invention. In Blomberg, it is disclosed that one block of the triblock composition has a molecular weight of 3250 and another block of the triblock composition has a molecular weight of over 5700. However, these polymers are used individually with a structural component such as polyacrylic acid. Nothing in Blomberg or Rathi teaches or suggests mixtures of triblock copolymers wherein an aqueous solution of the Component I triblock copolymer has a lower gelation temperature than an aqueous solution of the Component II triblock copolymer.

Therefore, in view of the above, it is believed that the Examiner has failed to established a case of *prima facie* obviousness. In other words, one of ordinary skill in the art when combining all the knowledge and methods disclosed in the cited prior art, at the time of the invention was made, would not come up with the triblock copolymer mixtures as claimed in the present invention. Thus, the Examiner is respectfully requested to withdraw the rejections of Claims 1-13 as being unpatentable over the cited references.

In conclusion, the present invention is patentable over all the references cited in the Examiner's rejection. Therefore, it is respectfully submitted that all the rejections be withdrawn and that all pending claims be allowed and this application be passed to issue.

If any impediment to the allowance of these claims remains, the Examiner is invited to call Dr. Weili Cheng, who is an attorney of record at (801) 566-6633, or in her absence, the undersigned at the same number, so that such matters may be resolved as expeditiously as possible.

The Commissioner is hereby authorized to charge any additional fee or to credit any overpayment in connection with this Amendment to Deposit Account No. 20-0100.

DATED this 31st day of December, 2002.

Respectfully submitted,

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Enc.

Marked Up Version of Claim 1

1.(amended) A biodegradable polymeric system possessing reverse thermal gelation properties comprising a mixture of at least a Component I triblock copolymer and a Component II triblock copolymer, said triblock copolymers comprising biodegradable polyester A-polymer blocks and polyethylene glycol B-polymer blocks, wherein the B-polymer block of said Component I triblock copolymer has an average molecular weight of 900 to 2000 Daltons and the B-polymer block of said Component II triblock copolymer has an average molecular weight of 600 to 2000 Daltons, and wherein said Component I triblock copolymer has an average molecular weight of between 2500 to 8000 Daltons and said component II triblock copolymer has an average molecular weight of between 800-7200 Daltons[.]; and wherein an aqueous solution of said Component I triblock copolymer has a lower gelation temperature than an aqueous solution of said Component II triblock copolymer.